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IMPROVING ROUTINES: SELF-MONITORING BY ADOLESCENTS  
DIAGNOSED WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The Department of Psychology

by  
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## **Abstract**

Attention-Deficit/Hyperactivity Disorder (ADHD), though commonly diagnosed in childhood, continues to present with problematic symptoms through adolescence and adulthood (Barkley, Fischer, Edelbrock, & Smallish, 1990; Young & Amarasinghe, 2010). Despite the number of adolescents suffering from ADHD and the detrimental effects the symptoms can have on their lives, there is a paucity of research in interventions tailored to this population (Young & Amarasinghe, 2010). Additionally, an even smaller portion of this research addresses daily routines for adolescents, despite findings that maintaining routines are often very difficult for adolescents with ADHD (Bloomquist, 2005; Coghill et al., 2008; Pfiffner et al. 2007; Robin, 1998;). Given this dearth of research, the purpose of this study was to evaluate whether adolescents with ADHD would improve in adherence to daily routines and homework problems with self-monitoring. Parents and adolescents received training in self-monitoring of daily behavior, including homework behavior, to address everyday difficulties that are common amongst adolescents diagnosed with ADHD. Results indicated that self-monitoring is an acceptable and promising method for improving routines related to school and discipline, as well as improving homework problems by adolescent report. Limitations and future research directions are also discussed.

## **Literature Review**

Attention Deficit/Hyperactivity Disorder (ADHD) is one of the most commonly diagnosed childhood disorders, with prevalence rates ranging from 2-9% (American Psychiatric Association, 2000; Breton et al., 1999; Briggs-Gowan, Horwitz, Schwab-Stone, Leventhal, & Leaf, 2000). Children and adolescents with ADHD exhibit a number of social, academic, and behavioral difficulties related to the core symptoms of inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2000; Anastopoulos & Farley, 2003; Erhardt & Hinshaw, 1994; Johnston & Mash, 2001; Langberg et al., 2010; Rabiner, Coie, & the Conduct Problems Prevention Research Group, 2000).

Although extensive research has evaluated behavioral interventions for improving the functioning of children with ADHD, relatively little research has focused on interventions for improving the functioning of adolescents diagnosed with ADHD (Chronis, Jones, & Raggi, 2006; Young & Amarasinghe, 2010). This is despite the knowledge that impairing ADHD-related symptoms continue from childhood to adolescence in approximately 50-66% of cases, and that continued ADHD symptomatology can result in multiple negative outcomes and functional impairments in adolescents with ADHD (Barkley, Fischer, Edelbrock, & Smallish, 1990; Young & Amarasinghe, 2010). Negative outcomes and functional impairments in adolescents diagnosed with ADHD include such things as academic underachievement, interpersonal difficulties, increased rates of dropout and substance use, and an increased risk of participation in delinquent behavior and risky sexual behavior (Barkley et al., 1990; Bagwell, Molina, Pelham, & Hoza, 2001; Ek, Westerlund, Holmberg, & Fernell, 2011; Flory, Molina, Pelham, Gnagy, & Smith, 2006; Molina & Pelham, 2003; Sibley, Evans, & Serpell, 2010). Only a handful of studies have been conducted regarding pharmacological and psychosocial

interventions to assist in alleviating, managing, or compensating for ADHD related symptomatology in adolescents. Existing research is reviewed below.

### **Pharmacological Interventions for Adolescents with ADHD**

The most researched and effective pharmacological intervention for ADHD to date is stimulant medication, which has been found to decrease levels of hyperactivity and impulsivity, increase ability to maintain sustained attention, and demonstrate effectiveness in children ages 4 and above (Connor, 2006; Connor 2002). Stimulant medication has demonstrated response rates in 70-82% of children for the first form of stimulant medication tried and response rates increase to 90% when a second form of stimulant medication is introduced (Smith, Barkley, & Shapiro, 2006; Pliszka et al., 2000). While this is a high percentage of responders, this still leaves approximately 1 in 10 children and adolescents who do not respond to stimulant medications and therefore must seek alternative interventions to address impairing symptomatology. Many nonresponders may try nonstimulant medications when stimulant medications prove ineffective, though nonstimulant medications are often less effective in decreasing ADHD symptomatology than stimulant medications and are therefore considered a second-line pharmacological treatment (Rains & Scahill, 2006).

In addition to the research demonstrating that approximately one in ten children and adolescents will not respond to stimulant medication, pharmacological interventions alone have not been found to directly affect or improve academic achievement and some other difficulties associated with ADHD, such as organization and poor time management skills (Anastopoulos & Farley, 2003; MTA Cooperative Group, 1999; Pelham et al., 1988). Moreover, adolescents with ADHD often experience difficulty with medication management and a percentage, ranging from 48-67%, discontinue taking their previously prescribed stimulant medications all together by the



age of fifteen (Charach, Ickowicz, & Schachar, 2004; Thiuchelvam, Charach, & Schachar, 2001; Wolraich et al., 2005). Additionally, adolescents are more likely than their childhood counterparts to exhibit symptoms of anxiety and depression, at times requiring consideration of alternate forms of intervention to medications for those adolescents who exhibit both symptoms of ADHD and a comorbid mood or anxiety disorder (Biederman, 2005; Hazell, 2007). Specifically, parents may express concern regarding the use of medications for ADHD if their adolescent is already taking medication to address symptoms unrelated to ADHD. Additionally, comorbid conditions require careful consideration to determine pharmacological effects when taking into account comorbid symptomatology. Often, one medication is administered before a second medication would be added, such that, for example, a time period may lapse in which an adolescent begins an antidepressant but continues to experience significant symptoms of ADHD that negatively impact his or her functioning. Comorbid symptomatology and its complicating factors lend support for the need of appropriate interventions that are not necessarily pharmacological in nature. These findings and considerations support the need for behavioral or psychosocial interventions for use in conjunction with, or when necessary, in place of, pharmacological interventions.

### **Behavioral/Psychosocial Interventions for Adolescents with ADHD**

Existing psychosocial interventions for adolescents with ADHD often address problematic symptoms via instructional and behavioral techniques. Interventions for adolescents with ADHD also generally attempt to take into account the adolescents' desire and need for greater independence. Additionally, given the particular academic difficulties faced by adolescents with ADHD, many interventions focus on academic skills at home, school, or both environments (Chronis et al., 2006; Young & Amarsinghe, 2010). Existing interventions that

have been researched for adolescents with ADHD include parent training, goal-setting, self-monitoring, academic skills training, and multimodal interventions, which combine two or more forms of intervention (Young & Amarsinghe, 2010).

**Parent Training.** One intervention that has been researched for adolescents diagnosed with ADHD is parent training in parent-teen conflict resolution. Few studies have been completed on parent training as a sole form of treatment, although it has been found to increase positive interactions between teens and their parents and decrease parent-teen conflict (Barkley, Edwards, Laneri, Fletcher, & Metevia, 2001; McCleary & Ridley, 1999; Young & Amarasinghe, 2010).

**Goal-Setting.** A second intervention researched for addressing specific difficulties in adolescents diagnosed with ADHD is goal-setting. Goal-setting is a contingency management system in which the parent and adolescent are trained to work together to specify goals that must be reached by the adolescent in order to gain tokens that are redeemable for a privilege or reward. Goals often consist of specific academic goals, such as completing homework assignments. Goal setting with rewards for goal achievement has been used to increase academic productivity in underachieving adolescents who had dropped out of high school (Kelley & Stokes, 1982). Little research has been conducted on goal-setting as a stand-alone intervention for adolescents in general, let alone those who are diagnosed with ADHD, demonstrating the need for further research in this area.

**Academic Skills Training.** Academic skills training interventions target specific academic skills for improvement, and has shown some support as an intervention for adolescents who have difficulty in specific academic skills. Evans and colleagues (1994) targeted note-taking skills in adolescents, in which they taught adolescents how to take notes via modeling.

They found that adolescent on-task behavior improved, as did comprehension of class material (Evans, Pelham, & Grudberg, 1994). Specific classroom or academic skill interventions have shown some benefits, such as increases in on-task behavior and improvement in accuracy of daily class work, but have demonstrated few benefits in addressing behavioral difficulties and academic underachievement on tests (Ervin, DuPaul, Kern, & Friman, 1998; Evans, Pelham, & Grudberg, 1994).

**Self-Monitoring.** Several researchers have found success in using self-monitoring of behavior during homework completion for adolescents (Axelrod, Zhe, Haugen, & Klein, 2009; Meyer & Kelley, 2007; Toney, Kelley, & Lanclos, 2003). Self-monitoring involves the parent and adolescent creating a list of target behaviors to be monitored before, during, and after homework completion to ensure completion of each target behavior. Target behaviors may include such things as: completed homework in mathematics, packed my book bag for the next day, and organized my notes from my classes. This intervention can be implemented by parents, but is most often implemented with a parent guiding the adolescent to complete their self-monitoring form in the beginning, and the parental guidance fading out while the adolescent eventually takes full responsibility for the completion of self-monitoring. Within this intervention, adolescents receive rewards for self-monitoring checklist completion. Axelrod and colleagues (2009) found that when inattentive adolescents used self-monitoring of on-task behavior during homework completion, the percentage of homework assignments completed and time spent on-task increased. Meyer and Kelley (2007) compared parent- and self-monitoring of homework behavior in adolescents with ADHD; both interventions were effective at improving grades relative to a wait list control sample. Additionally, they found that parents and

adolescents found both parent-lead and adolescent-lead self-monitoring interventions acceptable and helpful (Meyer & Kelley, 2007).

Self-monitoring interventions have also been used in the classroom with adolescents with ADHD to improve specific classroom-related behavior. Self-monitoring of specific classroom behavior has been found to improve the adolescent's ability to stay on-task, complete class work, and complete homework (Shapiro, DuPaul, & Bradley-Klug, 1998).

**Multimodal Interventions.** According to Young and Amarasinghe (2010), multimodal interventions are the only psychosocial intervention strategies researched thus far with adolescents diagnosed with ADHD using randomized clinical trials (RCTs). Multimodal approaches often target multiple areas of skill deficits while using a daily or weekly behavior report to provide contingencies based on adolescent behavior. The Challenging Horizons Program (CHP) is a multimodal treatment program that has been researched for adolescents with ADHD using RCTs (Evans et al., 2006). The CHP demonstrated success in preventing or delaying academic failure in middle schoolers, decreasing adolescent internalizing symptoms, and decreasing parent-reported ADHD-related symptoms, while also improving adolescent social functioning (Evans et al., 2006; Evans, Axelrod, & Langberg, 2004; Evans, Serpell, Schultz, & Pastor, 2007; Molina et al., 2008; Schultz, Evans, & Serpell, 2009). In this program, adolescents engaged in interpersonal, educational, and organizational skills training after school, and teachers completed an individualized daily behavior report in which consequences were provided by parents contingent upon acceptable classroom behavior (Evans et al., 2006). Additionally, the CHP communicated with parents and teachers of the students, providing psychoeducation on ADHD, techniques to work with the adolescents, and positive support; no direct parent training was noted as a component of this program (Evans et al., 2006).

**Self-Monitoring of Daily Routines.** Routines can be defined as repetitive and predictable activities that take place on a daily or weekly basis (Greening, Stoppelbein, Konishis, Jordan, & Moll, 2007; Sytsma, Kelley, & Wymer, 2001). Common routines that have been the focus of research include homework, bedtime, and mealtime routines (Fiese et al., 2002; Henderson, Barry, Bader, & Jordan, 2011; Lytle et al., 2011; Toney et al., 2003). The establishment of daily routines is popularly viewed as a positive approach in families to improve child or adolescent behavior; promote healthier eating, psychological adjustment, and well-being; improve adherence to treatment regimens; decrease parental stress and parent-child conflict; and increase parental feelings of competence (Brody & Flor, 1997; Greening et al., 2007; Hair, Moore, Garrett, Ling, & Cleveland, 2008; Lytle et al., 2011; Nelson, Erwin, & Duffy, 1998).

Establishment of daily routines is often recommended to families with a child or adolescent diagnosed with ADHD as a component of treatment, especially as related to homework completion, though little research has been conducted to support these recommendations (Pfiffner et al. 2007; Robin, 1998; Bloomquist, 2005). Establishment of daily routines is likely recommended due to the demonstrated effect that ADHD symptomatology in an adolescent has on the family. Coghill and colleagues (2008) found that, when 910 parents of children and adolescents with ADHD were surveyed, ADHD symptoms negatively impacted family routines, homework completion, and peer interactions. Additionally, parents of children and adolescents with ADHD reported significant daily problems regardless of whether the child was medicated (Coghill et al., 2008). This finding indicates that, even when pharmacological interventions are in place, children and adolescents with ADHD would likely benefit from an intervention targeting problems that may occur on a daily basis. Daily problems include such

things as chore completion, getting ready on time, taking medications as prescribed, and self-care tasks.

Recent findings have also demonstrated that adolescents with ADHD follow fewer routines than the typically developing adolescent (Landry, 2010). Furthermore, a negative correlation was found between ADHD symptom severity and adherence to routines, such that as severity of ADHD symptoms increased, adherence to routines decreased (Landry, 2010). If this is the case, it may be postulated that adolescents with ADHD who adhere to daily routines exhibit a decrease in symptom severity as a result of adhering to these routines. Harrison and colleagues (2011) conducted a study to determine, via parent and teacher report, behaviors that discriminated between adolescents diagnosed with ADHD and those not diagnosed with ADHD. They found that, according to teachers, the strongest discriminator between adolescents with and without ADHD was learning problems, supporting previous research indicating that adolescents with ADHD often suffer from academic difficulties. Furthermore, Harrison and colleagues (2011) found that, according to parent report, the strongest discriminatory behavior between adolescents with and without ADHD was attention problems. Of note, however, is that parents indicated ‘problems with daily activities’ as the third strongest discriminator between adolescents diagnosed with ADHD and those with no diagnosis (Harrison, Vannest, & Reynolds, 2011). This finding further supports the notion that adolescents may benefit from interventions targeting daily problems. Finally, research has indicated that establishing daily schedules may facilitate medication management through the scheduling of activities that require sustained attention when medication is optimally effective (Hammerness, 2008).

While several pharmacological and psychosocial interventions have been researched for adolescents with ADHD, these interventions rarely target daily routines or functional impairments in the adolescent's everyday life, but rather measure daily routines as an outcome measure of treatment. Additionally, while many psychosocial interventions target specific skills deficits, few studies target difficulties associated with daily life that may be addressed by establishment of routines, such as time management, completing necessary tasks such as chores, taking medications as prescribed, and homework completion. Self-monitoring of homework routines resulted in improved grades and on-task behavior in adolescents with ADHD, demonstrating promise for self-monitoring of routines as an intervention (Axelrod et al., 2009; Meyer & Kelley, 2007). Additionally, self-monitoring daily behavior may decrease adolescents' reliance on parental prompting, which may improve relationship satisfaction.

### **Summary & Hypotheses**

Research has demonstrated that several intervention methods are promising in addressing ADHD-related symptoms, specific skills deficits, and problems associated with homework completion and academic underachievement in adolescents diagnosed with ADHD (Chronis et al., 2006; Smith et al., 2006; Young & Amarasinghe, 2010). However, despite the numerous difficulties associated with having a diagnosis of ADHD as an adolescent, the research on interventions to address these difficulties has been limited (Chronis et al., 2006; Young & Amarasinghe, 2010). Existing interventions fail to specifically target everyday difficulties experienced by adolescents with ADHD that affect the adolescent's functioning, as well as the functioning of the family of the adolescent due to lack of adherence to routines (Coghill et al., 2008; Landry, 2010). Everyday difficulties experienced by adolescents diagnosed with ADHD may be addressed using self-monitoring of routine behavior.

Given the dearth in literature on interventions for adolescents with ADHD and the likelihood that routines may assist adolescents with ADHD in their everyday lives, the purpose of this study was to design and implement an individualized self-monitoring intervention that targets daily routines of adolescents diagnosed with ADHD. Adolescents were taught self-monitoring of behavior to be used throughout the day and during homework completion to assist them in the completion of everyday tasks as well as in productivity of homework completion. This contributes to the existing literature by providing a brief intervention to adolescents suffering from ADHD that may result in improvement in symptom management in their daily lives. This intervention was also designed to provide a brief treatment that is both practical and feasible for use in private clinician's settings. Additionally, due to its simplistic and brief nature, this intervention could be added to existing interventions as a component to improve routine behavior. The following hypotheses were geared towards determining if self-monitoring of routines was effective in decreasing homework difficulties and increasing daily self-care behavior. I hypothesized that:

1. From pre- to post-treatment, adolescents within the treatment group would demonstrate improvements in daily living routines, school and discipline routines, and household activities when compared to the treatment as usual control group.
2. Adolescents within the treatment group would improve in adherence to overall daily routines when compared to a treatment as usual control group.
3. From pre- to post-treatment, adolescents within the treatment group would demonstrate increased positive homework behavior and decreased negative homework behavior as compared to the treatment as usual group.



4. Adolescents within the treatment group would demonstrate decreased total homework problems in comparison to the treatment as usual control group.

## Method

### Participants

Participants were 27 adolescents diagnosed with Attention-Deficit/Hyperactivity Disorder and their parents. Participants were recruited through referrals from physicians and psychologists as well as through advertisements in pediatrician's waiting rooms and other places, such as in local schools.

Adolescent participants ranged in age from 12-17 ( $M = 14.07$ ) and attended grades 5 through 12 ( $M = 8$ ). The sample consisted of fourteen males (52%). The ethnic background of the adolescents was majority Caucasian (93%), followed by African American (7%). The primary parent involved was primarily mothers (85%), then fathers (15%) with age ranges from 36-53 years old ( $M = 46$ ). The majority of reports came from adolescents living in a home in which their parents were married (93%), followed by divorced (7%) parents. Additional details regarding participant characteristics are presented in Table 1.

Table 1  
Adolescent Participant Characteristics by Group Assignment

Characteristic	Self-Monitoring ( $n = 15$ )	Treatment as Usual ( $n = 12$ )
Gender		
Male	7 (46.7)	7 (58.3)
Female	8 (53.3)	5 (41.7)
Age		
12	5 (33.3)	2 (16.7)
13	2 (13.3)	2 (16.7)
14	3 (20)	1 (8.3)
15	2 (13.3)	4 (33.3)
16	2 (13.3)	2 (16.7)
17	1 (6.7)	1 (8.3)
Grade		
5	0 (0)	1 (8.3)
6	3 (20)	0 (0)
7	2 (13.3)	2 (16.7)

(Table 1 continued)

(Table 1 continued)

Characteristic	Self-Monitoring ( <i>n</i> = 15)	Treatment as Usual ( <i>n</i> = 12)
8	3 (20)	3 (25)
9	1 (6.7)	1 (8.3)
10	2 (13.3)	4 (33.3)
11	3 (20)	1 (8.3)
12	1 (6.7)	0 (0)
Ethnicity		
Caucasian	13 (86.7)	12 (100)
African American	2 (13.3)	0 (0)
Annual Household Income		
25,000-34,999	1 (6.7)	0 (0)
50,000-74,999	0 (0)	2 (16.7)
75,000-99,999	4 (26.7)	5 (41.7)
100,000+	10 (66.7)	5 (41.7)

Note. Percentage of the characteristic within the specified group is indicated in parentheses.

Adolescents were required to meet the following inclusion criteria to participate: 1. Demonstrated difficulties adhering to routines or demonstrated problematic homework behavior as measured by at least one standard deviation below mean on the Adolescent Routines Questionnaire (which is measured in such a manner that higher numbers equate to great adherence to routines) or one standard deviation below the mean on the Adolescent Homework Inventory. 2. Met diagnostic criteria for ADHD based on the Anxiety Disorder Interview Schedule (ADIS) ADHD module and elevated scores on the Conner's parent and self-report rating scales (Conners, 2008; Silverman & Albano, 2004). Factor scores on the parent and self-report scores on the Conner's-3 Rating Scale were at least 1.5 standard deviations above the mean. Participants who were already prescribed medications were asked to continue their medication regimen as prescribed, without changes, throughout treatment. Parents of adolescents who were not medicated were asked to refrain from beginning medication during the study. The majority (75%) of participants in the study were medicated; the number of adolescents that were medicated were similar across the treatment (74%) and control (75%)

groups. Diagnoses determined by the initial screener of the study indicated that the majority of participants (52%) met criteria for ADHD Combined Type, followed by ADHD Predominantly Inattentive Type (41%), then ADHD Not Otherwise Specified (7.4%).

Of note, the researchers were in contact with 62 families, in which 8 were referred for more appropriate services due to not meeting the inclusion criteria and 25 families participated in treatment. Five families dropped out of treatment due to time limitations or for unknown reasons (e.g. did not contact the therapist back). The remainder of families initiated contact with the researchers, the researchers then contacted the family back, and the family did not initiate any further contact with the therapist and therefore was not screened and did not participate in any portion of the current study.

## **Measures**

**Demographic Questionnaire.** Parents completed a demographic questionnaire. Information was collected on gender, age, race, and grade of each student, and age, race, income, marital status, and education level of the parent (see Appendix A).

**Adolescent Homework Inventory-Parent- & Self-Report** (AHI-P & AHI-S; Geary & Kelley, 2010). The AHI-P and AHI-S are 38 and 39 item (respectively) measures of adolescent homework problems. Each item is rated on a five point likert scale from one (*never true*) to five (*always true*) based on the adolescent's behavior over the past month. The AHI-P and AHI-S yield scores for two parallel subscales, Negative Homework Behavior and Positive Homework Behavior, and the AHI-P has a third subscale entitled Parent Contingencies, and the AHI-S has a third subscale entitled Responsible Behavior. A Total Homework Problems score can also be calculated. The AHI was administered to measures adolescent homework difficulties as well as strengths. Preliminary analyses demonstrated that the AHI has adequate to good psychometric

properties (Geary & Kelley, 2010; see Appendices B and C). Specifically, internal consistency reliability of the AHI-P was acceptable for the total measure ( $\alpha = .75$ ) and the individual factors ranged from acceptable to good, with Cronbach's alphas ranging from .77 to .93; internal consistency reliability of the AHI-S was good ( $\alpha = .80$ ), and individual factors ranged from acceptable to good with Cronbach's alphas ranging from .79 to .90 (Geary & Kelley, 2010). Additionally, the AHI demonstrated good construct validity with the Homework Problem Checklist for both parent and self-report versions (Anesko, Schoiack, Ramirez, & Levine, 1987; Geary & Kelley, 2010).

**Classroom Performance Survey (CPS;** Robin, 1998). The CPS is a measure of student performance and behavior in the classroom containing 20 items. Items were rated by the student's teacher on a 5-point likert scale from 1 (*always*) to 5 (*never*). Additional items allow the teacher to write additional comments, and report the percentage of work the student has turned in over the past month and the percentage of work turned in by the average student in the class over the past month. This measure was administered to collect teacher reports of classroom behavior.

**Adolescent Routines Questionnaire, Parent and Self-Report (ARQ;** Meyer, Kelley, Landry, Burns, & Thompson, 2009). The ARQ is a 33 item measure designed to assess for frequency of daily and weekly routines followed by adolescents. The ARQ has three subscales including daily living routines, school and discipline routines, and household activities. The ARQ also yields an overall adherence to daily routines score. Items are rated on a 5-point likert scale from 0 (*almost never*) to 4 (*nearly always*). Unpublished preliminary analyses have demonstrated that the ARQ has good psychometric properties and has demonstrated some utility with adolescents diagnosed with ADHD (Meyer et al., 2009; Landry, 2010). Specifically, internal

consistency reliability was good for the ARQ parent ( $\alpha = .88$ ) and self-report ( $\alpha = .84$ ) versions (Meyer et al., 2009). Cronbach's alphas for the individual factors used in the current study of the parent report ARQ ranged from .76 to .80; Cronbach's alphas for the individual factors used in the current study of the self-report ARQ ranged from .71 to .79 (Meyer et al., 2009). The ARQ was administered as a measure of adolescent daily routines.

**Child Behavior Checklist and Youth Self-Report** (*CBCL;YSR*; Achenbach & Rescorla, 2001). The CBCL and YSR are parallel, 112 item forms to be completed by the parent (CBCL) and adolescent (YSR). The CBCL and YSR screen for difficulties in various areas, such as attention, anxiety, and depression. Items are rated on a 3-point likert scale from not true to very true. These forms demonstrate adequate to good reliability and validity (Achenbach & Rescorla, 2001).

**Conners-3, Self and Parent Versions** (*Conners-3 SS/SP*; Conners, 2008). The Conners-3 provides rating scales to be completed by the adolescent and parent, which assisted in providing diagnostic clarity for ADHD, as well as to screen for learning difficulties, aggression, and difficulties in family and peer relations. Parents and adolescents were administered the Conners-3 in the long form. Subscales of the Conners-3 long form include: Executive Functioning, Hyperactivity/Impulsivity, Learning Problems, Aggression, Peer Relations (parent form only), family relations (self-report form only), and an ADHD Index. Additional subscales based on DSM-IV criteria include: ADHD Hyperactive/ Impulsive, ADHD Inattentive, ADHD Combined, Oppositional Defiant Disorder, and Conduct Disorder. The self-report version contains 59 items, and the parent version contains 110 items. The Conners-3 scales have demonstrated good psychometric properties; more specifically, the ADHD Index has been found to distinguish between children and adolescents with ADHD and those without ADHD (Conners, 2008). The

Conners-3 was administered to families in order to provide diagnostic clarity for inclusion in the current study.

**Anxiety Disorders Interview Schedule, Fourth Edition, Child and Parent Versions** (*ADIS-IV C/P*; Silverman & Albano, 2004). The ADIS is a semi-structured interview that uses DSM-IV-TR diagnostic criteria to assist in determining clinical diagnoses in children and adolescent. The ADHD module was administered to parents and adolescents. The ADIS is well-validated and demonstrated good psychometric properties (Silverman & Albano, 2004; Silverman, Saavedra, & Pina, 2001). Additionally, the ADHD module has demonstrated good concurrent validity and agreement between parent and child report (Jarrett, Wolff, & Ollendick, 2006). The ADIS was administered to families in the current study in order to provide diagnostic clarity for participation inclusion.

**Treatment Evaluation Inventory-Short Form** (*TEI-SF*; Kelley, Heffer, Gresham, & Elliott, 1989). The TEI is a 19-item measure of treatment satisfaction to be completed following treatment. It assesses the consumer's acceptability and perceived effectiveness of the treatment. The TEI-SF demonstrated adequate internal consistency (Kelley et al., 1989). The TEI was administered to families in order to determine the acceptability of the treatment in the current study according to the perception of the parents and adolescents.

**Daily Checklist.** Participants in the treatment group created individualized, daily self-monitoring checklists in which homework routines and other problematic times requiring a structured routine were targeted. Behavior to be monitored included such things as: chore completion, homework completion, medication adherence, and self-care, such as brushing teeth. Checklists were modified as necessary throughout the treatment process. Checklist completion

was measured by calculating the percentage of activities completed on the checklist out of the total number of activities listed (for a sample, see Appendix D).

**Homework Productivity and Homework Grades.** Homework productivity and grades were collected when possible via grades posted on-line. Homework productivity was defined as the percentage of homework turned in out of the total number of homework assignments assigned. Homework grades were defined as the percentage of homework items completed accurately out of the total number of items on the homework assignment. Assignments not turned in were credited as a zero. Assignments on a pass/fail basis were counted as 100 for pass and 0 for fail. Homework productivity and grades were collected for each student's core classes: English/Language Arts/Reading, Mathematics, Social Studies, and Science classes.

**Treatment Integrity Checklists.** Treatment integrity checklists were used during implementation of each treatment session to ensure that all elements of the treatment within each session were completed by the therapist (see Appendix E).

## **Design & Procedure**

A between groups design with two groups, a treatment as usual control and a self-monitoring group, were used. Participants were randomly assigned to one of these two groups accounting for age, gender, diagnosis, and ethnicity.

**Screening & Baseline.** Prior to data collection, the purpose of the study and the treatment procedures were explained to each parent and adolescent. They were informed that they would be randomly placed in the treatment as usual control or treatment group. Parent consent and adolescent assent were obtained. Each participant was interviewed using the ADHD module of the ADIS, a semi-structured clinical interview. Participants also completed their respective forms of the Conners-3, ARQ, and AHI. The Demographic Questionnaire and CBCL



were completed by the parent, and the YSR by the adolescent. If the participant met inclusion criteria, the family was provided with copies of the CPS to give to the adolescent's core subject teachers. These measures served as baseline data. Parents and adolescents who met inclusion criteria were randomly assigned to the treatment as usual control group or the self-monitoring treatment group.

**Treatment as Usual Control Group.** Participants assigned to the treatment as usual control group completed the pre-treatment, or baseline, measures. They continued to receive treatment and medication management provided through resources within the community during the four weeks in which they waited to begin treatment. Following those four weeks, families then completed the same measures as in the pre-treatment phase. During treatment, researchers requested that families keep the adolescent's medications stable and refrain from seeking therapeutic services in the community until completion of the current intervention.

**Self-Monitoring Group.** Following completion of pre-treatment measures and randomization, participants assigned to the self-monitoring group (SM) received the self-monitoring intervention over a period of four weeks.

Adolescent and parent participants assigned to the SM group attended three sessions in an outpatient clinic. All sessions were conducted by students with at least a master's degree in clinical psychology. Each session was completed with each family individually. The goals of the first session were to educate the parent-adolescent dyad about the importance of routines and establish a daily self-monitoring checklist. The therapist provided psychoeducation regarding common difficulties encountered by adolescents with ADHD who desire independence from their parents, but whose ADHD symptoms impede their efficient and punctual completion of daily tasks including homework. Homework completion and its important contributions to

academic achievement were reviewed with the parent and adolescent to emphasize the importance of including homework completion and related tasks on the daily checklist. Next, problematic “hot spots” such as getting ready in the morning, completing chores, completing homework, or getting ready for bed in a timely manner were identified. Following, a list of the target behaviors for each “hot spot” was generated, comprising the tasks to be included on the daily checklist. During this session, parents and adolescents were asked to prioritize tasks and focus on those that most negatively impact the daily functioning of the adolescent and family. Blank slots were provided on the daily checklist for the adolescent and/or parent to write-in new daily tasks that were developed after the session, or that only apply to a specific day, such as packing a bag for a once weekly dance practice. Additionally, a section at the bottom of the form allowed adolescents to record up to three daily personal goals that are not listed on the checklist. Daily personal goals were encouraged, but not required.

Parents were instructed to assist their adolescent in completing checklists initially; however, as the adolescent demonstrated competence in checklist completion, parents were instructed to phase out their assistance and simply ensure that the adolescent had completed the checklists at the end of the day. Parents and adolescents were taught how to calculate the percentage of daily checklist items completed on each checklist. Adolescents were considered competent in completing their checklists when they were able to complete 90% of tasks on two consecutive daily checklists independently (on their own, without parent reminders). If the adolescent reaches competence, but then is unable to complete the next checklist independently, parents were instructed to once again assist the adolescent until the adolescent reached competency. Adolescents completed the checklists daily and parents were instructed to reward the adolescent for checklist completion. A rewards list for checklist completion was developed during session

one. At the end of session one, parents and adolescents were provided with checklists for the next week and a copy of the rewards list. Parents and adolescents were also provided with hand-outs concerning establishment of rules, routines, and consequences, as well as psychoeducational hand-outs about ADHD and self-monitoring (see Appendices F and G).

Session two ideally took place one week after the beginning of the intervention and session three took place three weeks after the beginning of the intervention. Goals of sessions two and three included modifying the self-monitoring checklists as necessary, checking in to ensure the treatment was being implemented as discussed, and addressing any questions or concerns concerning treatment. Parents and adolescents returned to their therapist their previously completed daily checklists. When parents and adolescents experienced difficulty completing the intervention, the therapist and family worked together to trouble-shoot these difficulties in order to increase treatment compliance. At the conclusion of each session, parents and adolescents were provided with the appropriate number of daily checklists needed before the next session. During the intervention phase, parents and adolescent were contacted weekly via telephone or e-mail to ensure completion of the daily checklists and to address questions or concerns that arose between sessions.

Following treatment, each family completed the AHI, ARQ, CBCL, YSR, and TEI. Parents were provided again with copies of the CPS to distribute to the adolescent's core subject teachers.

## Results

### Reliability

Therapists used treatment integrity checklists throughout treatment to ensure that all treatment components were delivered for each session in which the therapist met with the family. The mean percentage of completed items throughout treatment for the treatment group was 99% across 5 sessions.

### Intervention

**Routines.** To determine that there were no significant pre-treatment differences between the treatment and treatment as usual control groups, separate, independent sample t-tests were conducted to compare parent and self-reports of Overall/Total Routines. Both independent sample t-tests suggested pretreatment equivalence across groups according to parent report  $t(25) = 1.59, p = .12$  and adolescent self-report  $t(25) = -1.27, p = .22$ .

For each dependent variable yielded by the Adolescent Routines Questionnaire (Daily Living Routines, School & Discipline Routines, Household Activities, Overall/Total Routines), a time (pretreatment versus posttreatment) by group (control versus treatment as usual) two-way repeated measures analysis of variance (ANOVA) was conducted for both parent and self-reports. Parent report indicated that there was a significant effect of group for Daily Living Routines  $F(1, 25) = 7.94, p = .01, \eta_p^2 = .24$ , School & Discipline Routines  $F(1, 25) = 4.54, p = .04, \eta_p^2 = .15$ , and Overall/Total Routines  $F(1, 25) = 4.17, p = .05, \eta_p^2 = .14$ ; there was no effect of group for Household Activities Routines  $F(1, 25) = .009, p = .93, \eta_p^2 = .00$ . According to parent report, the results indicated that there was no significant interaction between groups over time in Daily Living Routines  $F(1, 25) = .88, p = .36, \eta_p^2 = .03$ , School & Discipline Routines

$F(1, 25) = .07, p = .79, \eta_p^2 = .003$ , Household Activities Routines  $F(1, 25) = 1.60, p = .22, \eta_p^2 = .06$ , and Overall/Total Routines  $F(1, 25) = .52, p = .48, \eta_p^2 = .02$ .

Adolescent self-report indicated no effect of group for School & Discipline Routines  $F(1, 25) = .56, p = .50, \eta_p^2 = .02$ , Daily Living Routines  $F(1, 25) = .06, p = .81, \eta_p^2 = .002$ , Household Activities Routines  $F(1, 25) = .71, p = .41, \eta_p^2 = .03$ , and Overall/Total Routines  $F(1, 25) = .61, p = .44, \eta_p^2 = .02$ . According to adolescent self-report, assignment in the treatment group significantly improved School & Discipline Routines  $F(1, 25) = 5.52, p = .03, \eta_p^2 = .18$  over time when compared to adolescents in the treatment as usual group. Adolescent self-report indicated a marginally significant interaction in Daily Living Routines  $F(1, 25) = 3.65, p = .06, \eta_p^2 = .13$  when comparing groups over time. There was no significant interaction in Household Activities Routines  $F(1, 25) = .73, p = .40, \eta_p^2 = .03$  or Overall/Total Routines  $F(1, 25) = 2.21, p = .15, \eta_p^2 = .08$  when comparing groups over time. Means and standard deviations for all routines measures are presented in Table 2.

The percentage of checklist completion over time was not calculated for adolescents within the treatment group due to a substantial portion of checklists not being returned to the therapists throughout the treatment process.

**Homework.** To determine that there were no significant pre-treatment differences between the treatment and control groups, separate, independent sample t-tests were conducted to compare parent and self-reports of Total Homework Problems. Both independent sample t-tests suggested pretreatment equivalence across groups according to parent report  $t(25) = -1.63, p = .12$  and adolescent self-report  $t(25) = .416, p = .68$ .

For each dependent variable yielded by the Adolescent Homework Inventory (Negative Homework Behavior, Positive Homework Behavior, Total Homework Problems), a time

(pretreatment versus posttreatment) by group (control versus treatment as usual) two-way repeated measures ANOVA was conducted for both parent and self-reports. Parent report indicated that there was a significant effect of group for Total Homework Problems  $F(1, 25) = 6.13, p = .02, \eta_p^2 = .19$  and Positive Homework Behavior  $F(1, 25) = 7.18, p = .01, \eta_p^2 = .22$ . There was no significant effect of group for Negative Homework Behavior  $F(1, 25) = 3.50, p = .07, \eta_p^2 = .12$ . According to parent report, there was no significant interaction between participation in the treatment versus control groups over time on Total Homework Problems  $F(1, 25) = 2.01, p = .17, \eta_p^2 = .07$ , Negative Homework Behavior  $F(1, 25) = 1.28, p = .27, \eta_p^2 = .05$ , or Positive Homework Behavior  $F(1, 25) = 1.00, p = .33, \eta_p^2 = .04$ .

According to adolescent report, there was no significant effect of group for Total Homework Problems  $F(1, 25) = 1.00, p = .76, \eta_p^2 = .004$ , Negative Homework Behavior  $F(1, 25) = .05, p = .83, \eta_p^2 = .002$ , or Positive Homework Behavior  $F(1, 25) = .15, p = .70, \eta_p^2 = .006$ . Adolescent reports indicated a significant interaction between participation in the treatment versus control group over time, such that participation in the self-monitoring treatment group significantly decreased Total Homework Problems  $F(1, 25) = 5.19, p = .03, \eta_p^2 = .17$  over time. However, adolescent self-report did not indicate a significant interaction of group by time when factors were separated into Negative Homework Behavior  $F(1, 25) = 1.76, p = .20, \eta_p^2 = .06$  and Positive Homework Behavior  $F(1, 25) = 3.27, p = .08, \eta_p^2 = .12$ , though it is notable that the Positive Homework Behavior factor was a marginally significant interaction. This indicated some improvements in Positive Homework Behavior over time in the direction hypothesized by the researchers for those adolescents who participated in treatment versus those in the control group. Means and standard deviations for all homework measures are presented in Table 2.

Table 2  
Means and Standard Deviations for Dependent Measures

Group	Parent Report		Adolescent Report	
	Pretreatment <i>M (SD)</i>	Posttreatment <i>M (SD)</i>	Pretreatment <i>M (SD)</i>	Posttreatment <i>M (SD)</i>
Daily Living Routines				
SM	27.40 (1.39)	32.33 (1.35)	26.20 (1.36)	29.87 (1.10)
CG	23.58 (1.56)	26.42 (1.51)	28.33 (1.52)	28.50 (1.23)
School and Discipline Routines				
SM	24.80 (1.23)	25.67 (1.11)	19.80 (1.55)	23.47 (1.43)
CG	21.08 (1.38)	22.25 (1.25)	23.25 (1.73)	23.16 (1.60)
Household Activities Routines				
SM	14.93 (1.17)	15.47 (1.13)	11.73 (1.49)	13.60 (1.40)
CG	14.17 (1.31)	15.92 (1.27)	14 (1.66)	14.83 (1.56)
Total Routines Score				
SM	108.67 (4.35)	116.47 (3.94)	99.33 (5.31)	111.80 (5.27)
CG	98.50 (4.75)	103.16 (4.40)	109.42 (5.93)	113.25 (5.89)
Negative Homework Behavior				
SM	51.80 (3.05)	44.87 (2.17)	47.33 (3.52)	41.80 (3.08)
CG	56.58 (3.41)	53.50 (2.43)	43.92 (3.94)	43.17 (3.44)
Positive Homework Behavior				
SM	58.80 (2.12)	52.27 (2.45)	57.53 (2.91)	49.07 (2.55)
CG	65.25 (2.37)	62.00 (2.73)	55.75 (3.25)	53.75 (2.86)
Total Homework Problems Score				
SM	127.80 (4.65)	115 (4.35)	120.66 (6.01)	104.53 (5.17)
CG	139.17 (5.19)	134.17 (4.87)	116.91 (6.72)	113.25 (5.78)

Note. SM = Self-Monitoring Treatment Group; CG = Control Group.

### Confounding Variables

Potential confounding variables were addressed to determine if demographic variables (i.e. sex, ethnicity, socioeconomic status) and other possible variables, such as adolescent medication use, produced significant differences over time across groups. These were addressed using two-way, repeated measures analyses of covariance (ANCOVA). Separate ANCOVA

analyses across demographic variables and medication use demonstrated that these variables did not significantly confound treatment effects over time by group.

### **Treatment Satisfaction**

Analyses were conducted post-treatment to determine if parents and adolescents within the treatment group found this treatment acceptable and effective. Fifteen parents and adolescents who completed the self-monitoring intervention completed the Treatment Evaluation Inventory. When parents were asked if they thought the treatment was effective, 14 (93%) agreed or strongly agreed and 1 (7%) strongly disagreed. Eleven adolescents (73%) agreed or strongly agreed that they thought the treatment was effective, and 4 adolescents (27%) gave neutral responses when asked if they thought the treatment was effective. Lastly, when parents and adolescents within the treatment group were asked if they liked the procedures used in the treatment, 13 parents (87%) and 8 adolescents (54%) agreed or strongly agreed. Two parents (13%) disagreed or strongly disagreed, 5 adolescents (33%) were neutral, and 2 adolescents (13%) disliked the treatment.



## **Discussion**

The purpose of the current study was to develop a brief and practical self-monitoring intervention for adolescents diagnosed with ADHD that would improve daily functioning related to routine behavior, such as homework completion, chore completion, and self-care tasks. The researchers hypothesized that the current intervention would improve adherence to routines in the areas of daily living, school and discipline, and household activities, as well as in overall, daily routine behavior. The researchers also hypothesized that participation in treatment would increase positive homework behavior and decrease negative homework behavior. Additionally, researchers hypothesized that participation in the intervention would decrease overall homework problems. In the current study, parent reports demonstrated that participation in the current treatment did not improve adherence to routines or alleviate homework problems experienced by their adolescent, which did not support the researcher's hypothesis. Effect sizes for the parent report measures were all within the small range.

Adolescent self-report, however, differed from parent report in that adolescent self-report showed improvements in adherence to routines related to school and discipline, as well as improvements in overall reported homework difficulties. Both of these measures yielded medium effect sizes. These findings support the researcher's hypotheses. Adolescent self-report did not, however, indicate improvements in adhering to overall daily routines, daily living routines, or household activities routines, though the measure of daily living routines yielded a medium effect size. Additionally, adolescent self-report did not indicate significant improvements in positive homework behavior or significant decreases in negative homework behavior, though increases in positive homework behavior yielded a medium effect size. These findings were not supportive of the researcher's hypotheses. However, the current study

demonstrated medium effect sizes across several analyses, which is congruent with previous findings regarding intervention research on children with ADHD which demonstrated medium to large effect size on measurements of ADHD related symptomatology and academic improvement (Molina et al., 2008; Raggi & Chronis, 2006; Young and Amarasinghe, 2010).

Given the effect sizes demonstrated for adolescent self-report, it is likely that participation of a larger sample size would increase statistical power of the analyses and provide further support for the current intervention. Additionally, developmentally, adolescents have increased demands placed on them in terms of academic rigor and responsibility related to daily tasks. In addition to increased demands, adolescents are expected by parents and teachers to be increasingly independent. Therefore, it was crucial to include adolescent self-report in the current study, as many parents begin to fade out assisting their adolescent in completing daily tasks and academic related tasks, especially homework, as adolescents age. With this in mind, it is important to point out that adolescents in some cases may more accurately report their own daily routine behavior when compared to parent report. This may be especially true of unobservable tasks, tasks that are unlikely to be observed, and those that may be difficult to observe because they are completed by the adolescent in privacy (i.e. studying material until it is memorized, completing self-care tasks, organizing materials).

Interestingly, despite attempts of the current treatment to target daily routines in general, it appears from the results that the most positively impacted areas according to adolescent perception were related to school and academic routines, and less so to daily living and household routines. Additionally, participation in the study overall positively impacted the adolescent's homework behavior. Of note, the current study did not provide skills training in the area of homework behavior. So it would appear that simply having an adolescent monitor their

homework behavior may increase positive homework behavior and academic related behavior without including a skills training component. Future research may want to include skills training to the current intervention to determine if self-monitoring plus specific skills training would increase the impact of the current intervention.

There are several limitations in the current study. Firstly, the current study includes a limited demographic in regards to socioeconomic status and ethnic background. Secondly, the current study includes a small sample size. Future research should use the current intervention with a more diverse sample, as well as a larger sample size. Additionally, researchers may want to include skills training as an added component to the current intervention to determine if self-monitoring plus the added component of skills training in areas related to daily living skills (organization, planning ahead) and daily homework problems (study skills, time management skills) would positively impact the effectiveness of the intervention.

In sum, the current study demonstrates that self-monitoring and goal setting of daily routines may be a helpful component to include in treatment that is targeting homework problems and academic related difficulties in adolescents with ADHD, especially from the perspective of the adolescent. Further research may provide greater support for the addition of this component into multimodal treatment models for adolescents with ADHD.

## References

- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms and Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4<sup>th</sup> ed., text revision). Washington, DC: Author.
- Anastopoulos, A.D., & Farley, S.E. (2003). A cognitive-behavioral training program for parents of children with attention-deficit/hyperactivity disorder. In A.E. Kazdin & J.R. Weisz (Eds.), *Evidence-based psychotherapies for children and adolescents* (pp. 204-223). New York: Guilford Press.
- Anesko, K.M., Schoiack, G., Ramirez, R., & Levine, F.M. (1987). The homework problem checklist: Assessing children's homework difficulties. *Behavioral Assessment*, 9, 179-185.
- Axelrod, M.I., Zhe, E.J., Haugen, K.A., & Klein, J.A. (2009). Self-management of on-task homework behavior: A promising strategy for adolescents with attention and behavior problems. *School Psychology Review*, 38(3), 325-333.
- Bagwell, C.L., Molina, B.S.G., Pelham, W. E., & Hoza, B. (2001). Attention-deficit hyperactivity disorder and problems in peer relations: Predictions from childhood to adolescent. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 1285-1292.
- Barkley, R.A., Edwards, G., Laneri, M., Fletcher, L., & Metevia, L. (2001). The efficacy of problem-solving communication training alone, behavior management training alone, and their combination for parent-adolescent conflict in teenagers with ADHD and ODD. *Journal of Consulting Psychology*, 69(6), 926-941. DOI 10.1037/0022-006X.69.6.926
- Barkley, R.A., Fischer, M., Edelbrock, C.S., & Smallish, L. (1990) The adolescent outcome of hyperactive children diagnosed with by research criteria: I. An 8-year prospective follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 28(4), 546-557.
- Biederman, J. (2005). Attention-deficit/hyperactivity disorder: A selective overview. *Biological Psychiatry*, 57(11), 1215-1220. doi:10.1016/j.biopsych.2004.10.020
- Bloomquist, M. L. (2005). *Skills training for children with behavior problems: A parent and practitioner guidebook* (Revised ed.). New York: Guilford.
- Breton, J., Bergeron, L., Valla, J.P., Berthiaume, C., Gaudet, N., Lambert, J., et al. (1999). Quebec Children Mental Health Survey: Prevalence of DSM-III-R mental health disorders. *Journal of Child Psychology and Psychiatry*, 40, 375-384.

- Briggs-Gowan, M.J., Horwitz, S.M., Schwab-Stone, M.E., Leventhal, J.M., & Leaf, P.J. (2000). Mental health in pediatric settings: Distribution of disorders and factors related to service use.
- Brody, G. H. & Flor, D.L. (1997). Maternal psychological functioning, family processes, and child adjustment in rural, single-parent African American families. *Developmental Psychology*, 33(6), 1000-1011.
- Charach A, Ickowicz A, & Schachar R. (2004). Stimulant treatment over five years: adherence, effectiveness, and adverse effects. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 559-567.
- Chronis, A. M., Jones, H.A., & Raggi, V.L. (2006). Evidence-based psychosocial treatments for children and adolescent with attention deficit/hyperactivity disorder. *Clinical Psychology Review*, 26, 486-502.
- Coghill, D., Soutullo, C., d'Aubuisson, C., Ulrich, P., Lindback, T., ... Buitelaar, J. (2008). Impact of attention-deficit/hyperactivity disorder on the patient and family: results from a european survey. *Child and Adolescent Psychiatry and Mental Health*, 2(31). DOI 10.1186/1753-2000-2-31
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2<sup>nd</sup> ed.). New York: Academic Press.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159.
- Connor, D.F. (2002). Preschool attention deficit hyperactivity disorder: A review of prevalence, diagnosis, neurobiology, and stimulant treatment. *Journal of Developmental and Behavioral Pediatrics*, 23, S1-S9.
- Connor, D.F. (2006). Stimulants. In R.A. Barkley, *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment* (3<sup>rd</sup> ed., pp. 608-647). New York: Guilford Press.
- Conners, C. K. (2008). *Conners Third Edition (Conners 3)*. North Tonawanda, NY: Multi-Health Systems, Inc.
- Ek, U., Westerlund, J., Holmberg, K., & Fernell, E. (2011). Academic performance of adolescents with ADHD and other behavioural and learning problems- A population-based longitudinal study. *Acta Paediatrica*, 100(3), 402-406. DOI 10.1111/j.1651-2227.2010.02048.x
- Erhardt, D., & Hinshaw, S.P. (1994). Initial sociometric impressions of attention-deficit hyperactivity disorder and comparison boys: Predictions from social behaviors and from nonbehavioral variables. *Journal of Consulting and Clinical Psychology*, 62, 833-842.

- Ervin, R.A., DuPaul, G.J., Kern, L., & Friman, P.C. (1998). Classroom-based functional and adjunctive assessments: Proactive approaches to intervention selection for adolescents with attention deficit hyperactivity disorder. *Journal of Applied Behavior Analysis*, 31(1), 65-78. DOI 10.1901/jaba.1998.31-65
- Evans, S.W., Axelrod, J.L., & Langberg, J.M. (2004). Efficacy of a school-based treatment program for middle school youth with ADHD: Pilot data. *Behavior Modification*, 28, 528.
- Evans, S.W., Pelham, W., & Grudberg, M.V. (1994). The efficacy of notetaking to improve behavior and comprehension of adolescents diagnosed with Attention Deficit Hyperactivity Disorder. *Exceptionality*, 5(1), 1-17.
- Evans, S.W., Serpell, Z.N., Schultz, B.K., & Pastor, D.A. (2007). Cumulative benefits of secondary school-based treatment of students with attention deficit hyperactivity disorder. *School Psychology Review*, 36(2), 256-273.
- Evans, S.W., Timmins, B., Sibley, M., White, L.C., Serpell, Z.N., & Schultz, B. (2006). Developing coordinated, multimodal, school-based treatment for young adolescents with ADHD. *Education and Treatment of Children*, 29(2), 359-378.
- Fabiano, G.A., Pelham, W.E., Coles, E.K., Gnagy, E.M., Chronis-Tuscano, A., & O'Connor, B. (2008). A meta-analysis of behavioral treatments for attention-deficit/hyperactivity disorder. *Clinical Psychology Review*, 29, 129-140.
- Fiese, B.H., Tomcho, T.J., Douglas, M., Josephs, K., Poltrock, S., & Baker, T. (2002). 50 years of research on naturally occurring family routines and rituals: Cause for celebration? *Journal of Family Psychology*, 16 (4), 381-390.
- Flory, K., Molina, B. S. G., Pelham, W. E., Gnagy, E., & Smith, B. (2006). Childhood ADHD predicts risky sexual behavior in young adulthood. *Journal of Clinical Child and Adolescent Psychology*, 35, 571-577.
- Geary, M.A. & Kelley, M.L. (2010). Development and validation of the adolescent homework inventory. (Unpublished master's thesis). Louisiana State University, Baton Rouge, Louisiana.
- Greenhill, L.L., Halperin, J.M., & Abikoff, H. (1999). Stimulant medications. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 503-512.
- Greening, L., Stoppelbein, L., Konishi, C., Jordan, S., & Moll, G. (2007). Child routines and youths' adherence to treatment for Type 1 diabetes. *Journal of Pediatric Psychology*, 32(4), 437-447. doi:10.1093/jpepsy/jsl029

- Hair, E. C., Moore, K. A., Garrett, S. B., Ling, T., & Cleveland, K. (2008). The Continued Importance of Quality Parent–Adolescent Relationships During Late Adolescence. *Journal of Research on Adolescence*, 18(1), 187-200. doi:10.1111/j.1532-7795.2008.00556.x
- Hazell, P. (2007). Pharmacological management of attention-deficit hyperactivity disorder in adolescents: Special considerations. *CNS Drugs*, 21(1), 37.
- Hammerness, P. G. (2008). Treatment challenges in adolescents with ADHD, *Clinical Review*, August 2008.
- Harrison, J. R., Vannest, K. J., & Reynolds, C. R. (2011). Behaviors that discriminate ADHD in children and adolescents: Primary symptoms, symptoms of comorbid conditions, or indicators of functional impairment? *Journal of Attention Disorders*, 15(2), 147-160. doi:10.1177/ 1087054709356170
- Henderson, J.A., Barry, T.D., Bader, S.H., & Jordan, S.S. (2011). The relation among sleep, routines, and externalizing behavior in children with an autism spectrum disorder. *Research in Autism Spectrum Disorders*, 5(2), 758-767.
- Jarrett, M. A., Wolff, J. C., & Ollendick, T. H. (2007). Concurrent validity and informant agreement of the ADHD module of the Anxiety Disorders Interview Schedule for DSM-IV. *Journal of Psychopathology and Behavioral Assessment*, 29(3), 159-168. doi:10.1007/s10862-006-9041-x
- Johnston, C., & Mash, E.J. (2001). Families of children with attention-deficit/hyperactivity disorder: Review and recommendations for future research. *Clinical Child and Family Psychology Review*, 4, 183-207.
- Kelley, M.L., Heffer, R.W., Gresham, F.M., & Elliott, S.N. (1989). Development of a modified treatment evaluation inventory. *Journal of Psychopathology and Behavioral Assessment*, 11, 235-247.
- Kelley, M.L. & Stokes, T.F. (1982). Contingency contracting with disadvantaged youths: Improving classroom performance. *Journal of Applied Behavior Analysis*, 15(3), 447-454. DOI 10.1901/jaba.1982.15-447
- Landry, D. (2010). *The role of daily routines in adolescents diagnosed with Attention-Deficit/Hyperactivity Disorder*. (Unpublished doctoral dissertation). Louisiana State University, Baton Rouge, Louisiana.
- Langberg, J.M., Arnold, L.E., Flowers, A.M., Altaye, M., Epstein, J.N., & Molina, B.S.G. (2010). Assessing homework problems in children with ADHD: Validation of a parent-report measure and evaluation of homework performance patterns. *School Mental Health*, 2, 3-12.

- Lytle, L.A., Hearst, M.O., Fulkerson, J., Murray, D., Martinson, B., ... Samuelson, A. (2011). Examining the relationships between family meal practices, family stressors, and the weight of youth in the family. *Annals of Behavioral Medicine*, 41, 353-362. DOI: 10.1007/s12160-010-9243-z
- McCleary, L. & Ridley, T. (1999). Parenting adolescents with ADHD: Evaluation of a psychoeducation group. *Patient Education and Counseling*, 38(1), 3-10.
- Meyer, K., Kelley, M.L. (2007). Improving homework in adolescents with attention deficit/hyperactivity disorder: Self vs. parent monitoring of homework behavior and study skills. *Child and Family Behavior Therapy*, 29(4), 25-42.
- Meyer, K., Kelley, M.L., Landry, D., Burns, M.A., Thompson, J. (2008). Development and validation of the adolescent routines questionnaire: Parent and self-report. (Unpublished master's thesis). Louisiana State University, Baton Rouge, Louisiana.
- Molina, B.S.G., Flory, K., Bukstein, O.G., Greiner, A.R., Baker, J.L., ... Evans, S.W. (2008). Feasibility and preliminary efficacy of an after-school program for middle schoolers with ADHD: A randomized trial in a large public middle school. *Journal of Attention Disorders*, 12(3), 207-217. DOI 10.1177/1087054707311666
- Molina, B. S. G., & Pelham, W. E. (2003). Childhood predictors of adolescent substance use in a longitudinal study of children with ADHD. *Journal of Abnormal Psychology*, 112, 497-507.
- MTA Cooperative Group. (1999). A 14-month randomized clinical trial of treatment strategies for attention-deficit/hyperactivity disorder. *Archives of General Psychiatry*, 56, 1073-1086.
- Nelson, J., Erwin, C., & Duffy, R. (1998). *Positive discipline for preschoolers* (Rev. 2<sup>nd</sup> ed.) Rocklin, CA: Prima.
- Pelham, W.E., Schnedler, R.W., Bender, M.E., Nilsson, D.E., Miller, J., Budrow, M.S., et al. (1988). The combination of behavior therapy and methylphenidate in the treatment of attention deficit disorders: A therapy outcome study. In L. Bloomingdale (Ed.), *Attention deficit disorders* (Vol. 3, pp. 29-48). New York: Pergamon Press.
- Pfiffner, L.J., Mikami, A.Y., Huang, Pollock, C., Easterlin, B., Zalecki, C., & McBurnett, K. (2007). A randomized, controlled trial of integrated home-school behavioral treatment for ADHD, predominantly inattentive type. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46 (8), 1041-1050.
- Pliszka, S.R., Greenhill, L.L., Crimson, M.L., Sedillo, S., Carlson, C., Conners, S.K., ... Toprac, M.G. (2000). The texas children's medication algorithm project: Report of the texas consensus conference on medication treatment of childhood attention-



- deficit/hyperactivity disorder. Part 1. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39(7), 908-919.
- Rabiner, D., Coie, J.D., & the Conduct Problems Prevention Research Group. (2000). Early attention problems and children's reading achievement: A longitudinal investigation. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 859-867.
- Raggi, V.L. & Chronis, A.M. (2006). Interventions to address the academic impairment of children and adolescents with ADHD. *Clinical Child and Family Psychology Review*, 9(2), 85-111. DOI 10.1007/s10567-006-0006-0
- Robin, A. L. (1998). *ADHD in adolescents: Diagnosis and Treatment*. New York: Guilford Press.
- Rains, A., & Scahill, L. (2006). Nonstimulant Medications for the Treatment of ADHD. *Journal of Child and Adolescent Psychiatric Nursing*, 19(1), 44-47. doi:10.1111/j.1744-6171.2006.00044.x
- Schultz, B.K., Evans, S.W., & Serpell, Z.N. (2009). Preventing failure among middle school students with attention deficit hyperactivity disorder: A survival analysis. *School Psychology Review*, 38(1), 14-27.
- Sibley, M.H., Evans, S.W., & Serpell, Z.N. (2010). Social cognition and interpersonal impairment in adolescents with ADHD. *Journal of Psychopathology and Behavioral Assessment*, 32, 193-202. DOI 10.1007/s10862-009-9152-2
- Silverman, W.K. & Albano, A.M. (2004). *Anxiety Disorders Interview Schedule (ADIS-IV) Child/Parent Clinician Manual*. New York, New York: Oxford University Press.
- Silverman, W.K., Saavedra, L.M., & Pina, A.A. (2001). Test-retest reliability of anxiety symptoms and diagnoses with anxiety disorders interview schedule for DSM-IV child and parent version. *Journal of the Academy of Child and Adolescent Psychiatry*, 40, 937-944.
- Shapiro, E. S., DuPaul, G. J., & Bradley-Klug, K. L. (1998). Self-management as a strategy to improve the classroom behavior of adolescents with ADHD. *Journal of Learning Disabilities*, 31(6), 545.
- Smith, B.H., Barkley, R.A., & Shapiro, C.J. (2006). Attention-deficit/hyperactivity disorder. In E. J. Mash & R.A. Barkley (Eds.), *Treatment of childhood disorders* (3<sup>rd</sup> ed., pp. 65-136). New York: Guilford Press.
- Sytsma, S.E., Kelley, M.L., & Wymer, J.H. (2001). Development and Initial Validation of the Child Routines Inventory. *Journal of Psychopathology and Behavioral Assessment*, 23(4), 241-251.

- Thiruchelvam D, Charach A, Schachar RJ. (2001). Moderators and mediators of long-term adherence to stimulant treatment in children with ADHD. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 922-928.
- Toney, L.P., Kelley, M.L., & Lanclos, N.F. (2003). Self- and parental monitoring of homework in adolescents: Comparative effects on parent' perceptions of homework behavior problems. *Child and Family Behavior Therapy*, 25(1), 35-51.
- Wolraich, M.L., Wibbelsman, C.J., Brown, T.E., Evans, S.W., Gotlieb, E.M., Knight, J.R., ... Wilens, T. (2005). Attention-deficit/hyperactivity disorder among adolescents: A review of the diagnosis, treatment, and clinical implications. *Pediatrics*, 115(6), 1734-1746.
- Young, S. & Amarasinghe, M. (2010). Practitioner Review: Non-pharmacological treatments for ADHD: A lifespan approach. *Journal of Child Psychology and Psychiatry*, 51(2), 116-133.

## Appendix A: Demographic Questionnaire

**Directions:** Please complete the following information about you and your child.

**Today's Date**\_\_\_\_\_

**Child Sex** \_\_\_\_\_ **Child Race/Ethnicity**\_\_\_\_\_ **Child Age**\_\_\_\_\_ **Child Grade**\_\_\_\_\_

**Child's Current Medications (dose, how often taken, time taken)** \_\_\_\_\_  
\_\_\_\_\_

**Parent's Relationship to Child (Mom, Dad, Aunt, Grandparent):**\_\_\_\_\_

**Parent Age:** \_\_\_\_\_ **Parent Race/Ethnicity**\_\_\_\_\_ **Parish/County you live in**\_\_\_\_\_

**Phone:**\_\_\_\_\_ **E-mail Address (optional):** \_\_\_\_\_

**What is your current marital status?**

\_\_\_\_\_**Married**    \_\_\_\_ **Divorced**    \_\_\_\_ **Widowed**    \_\_\_\_ **Single**    \_\_\_\_ **Living with Partner**

**Currently, what is the *highest* level of education YOU have completed? (Please check one)**

1. \_\_\_\_ 6<sup>th</sup> Grade or less
2. \_\_\_\_ Junior High School (7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> grade)
3. \_\_\_\_ Partial High School (10<sup>th</sup>, 11<sup>th</sup> grade)
4. \_\_\_\_ High School Graduate
5. \_\_\_\_ Partial College (at least 1 year) or specialized training
6. \_\_\_\_ Standard College Graduate (B.A., B.S.)
7. \_\_\_\_ Graduate Professional Degree (Masters or Doctorate)

**Currently, what is the *highest* level of education your SPOUSE/live in partner has completed?**

1. \_\_\_\_ 6<sup>th</sup> Grade or less
2. \_\_\_\_ Junior High School (7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> grade)
3. \_\_\_\_ Partial High School (10<sup>th</sup>, 11<sup>th</sup> grade)
4. \_\_\_\_ High School Graduate
5. \_\_\_\_ Partial College (at least 1 year) or specialized training
6. \_\_\_\_ Standard College Graduate (B.A., B.S.)
7. \_\_\_\_ Graduate Professional Degree (Masters or Doctorate)

**What is the total and CURRENT annual income of your household? (the income of *all* people living in your house right now, plus any government assistance; please check one)**

- \_\_\_\_ **\$0-4,999**  
\_\_\_\_ **\$5,000-14,999**  
\_\_\_\_ **\$15,000-24,999**  
\_\_\_\_ **\$25,000-34,999**  
\_\_\_\_ **\$35,000-49,999**

\_\_\_ **\$50,000-74,999**  
\_\_\_ **\$75,000-99,999**  
\_\_\_ **\$100,000 and up**

## Appendix B: Adolescent Homework Inventory-Parent

**Directions:** Many children and adolescents have problems with homework. Please rate how often *your child* has done the following over the past month.

	<b>Never True</b>	<b>Seldom/ Rarely True</b>	<b>Sometimes True</b>	<b>Frequently /Often True</b>	<b>Always True</b>
1. Reads the textbook to prepare for tests.	1	2	3	4	5
2. Complains about homework.	1	2	3	4	5
3. Unmotivated to study.	1	2	3	4	5
4. Puts off starting homework.	1	2	3	4	5
5. Rereads textbook or notes when he/she doesn't understand the assignment.	1	2	3	4	5
6. Daydreams during homework.	1	2	3	4	5
7. Unmotivated to complete homework.	1	2	3	4	5
8. Easily distracted during homework.	1	2	3	4	5
9. Rewarded for good grades.	1	2	3	4	5
10. Takes too long to complete homework.	1	2	3	4	5
11. Reviews errors made on old tests (learns from past mistakes).	1	2	3	4	5
12. Makes careless mistakes on homework.	1	2	3	4	5
13. Does as little as possible to complete homework.	1	2	3	4	5
14. Rushes through homework.	1	2	3	4	5
15. Dissatisfied with completed homework.	1	2	3	4	5
16. Checks homework for correct answers.	1	2	3	4	5

17. Punished for bad grades.	1	2	3	4	5
18. Frustrated when a parent/tutor tries to help with homework.	1	2	3	4	5
19. Studies enough for tests.	1	2	3	4	5
20. Calls a friend for help with homework when needed.	1	2	3	4	5
21. Rewrites notes when studying.	1	2	3	4	5
22. Rewarded for completing homework.	1	2	3	4	5
23. Takes too many breaks during homework.	1	2	3	4	5
24. Records homework assignments correctly.	1	2	3	4	5
25. Organizes his/her notes when studying.	1	2	3	4	5
26. Gets annoyed when asked to complete or correct mistakes on homework.	1	2	3	4	5
27. Punished for failing to complete homework.	1	2	3	4	5
28. Asks for help from teacher when he/she doesn't understand an assignment.	1	2	3	4	5
29. Highlights or underlines important points in notes.	1	2	3	4	5
30. Studies material related to homework.	1	2	3	4	5
31. Takes legible, organized notes.	1	2	3	4	5
32. Organizes backpack for the next day.	1	2	3	4	5
33. Rewarded for studying.	1	2	3	4	5
34. Creates flashcards to study for a test.	1	2	3	4	5

35. Studies based on test format.	1	2	3	4	5
36. Waits too long to start long-term assignments.	1	2	3	4	5
37. Reviews material until memorized.	1	2	3	4	5
38. Punished for failing to study.	1	2	3	4	5

### Appendix C: Adolescent Homework Inventory-Self

**Directions:** Many children and adolescents have problems with homework. Please rate how often each statement has been true of *you* in the past month.

	<b>Never True</b>	<b>Seldom/ Rarely True</b>	<b>Sometimes True</b>	<b>Frequently / Often True</b>	<b>Always True</b>
1. I fail to bring home necessary materials.	1	2	3	4	5
2. I read the textbook to prepare for tests.	1	2	3	4	5
3. I complain about homework.	1	2	3	4	5
4. I am unmotivated to study.	1	2	3	4	5
5. I put off starting homework.	1	2	3	4	5
6. I reread the textbook or notes when I don't understand the assignment.	1	2	3	4	5
7. I daydream during homework.	1	2	3	4	5
8. I am unmotivated to complete homework.	1	2	3	4	5
9. I am easily distracted during homework.	1	2	3	4	5
10. I take too long to complete homework.	1	2	3	4	5
11. I review errors made on old tests (I learn from past mistake).	1	2	3	4	5
12. I make careless mistakes on homework.	1	2	3	4	5
13. I do as little as possible to complete homework.	1	2	3	4	5
14. I fail to bring homework to class.	1	2	3	4	5
15. I rush through homework.	1	2	3	4	5



16. I am dissatisfied with completed homework.	1	2	3	4	5
17. I checks homework for correct answers.	1	2	3	4	5
18. I turn in homework late.	1	2	3	4	5
19. I am frustrated when a parent/tutor tries to help me with homework.	1	2	3	4	5
20. I study enough for tests.	1	2	3	4	5
21. I call a friend for help with homework when I need it.	1	2	3	4	5
22. I rewrite notes when studying.	1	2	3	4	5
23. I take too many breaks during homework.	1	2	3	4	5
24. I record homework assignments correctly.	1	2	3	4	5
25. I organize my notes when studying.	1	2	3	4	5
26. I get annoyed when asked to complete or correct mistakes on homework.	1	2	3	4	5
27. I ask for help from the teacher when I don't understand an assignment.	1	2	3	4	5
28. I can't find where my homework assignment is written.	1	2	3	4	5
29. I highlight or underline important points in notes.	1	2	3	4	5
30. I study material related to homework.	1	2	3	4	5
31. I take legible, organized notes.	1	2	3	4	5

32. I organize my backpack for the next day.	1	2	3	4	5
33. I need supervision during homework to ensure completion.	1	2	3	4	5
34. I need adult help/instruction to complete homework.	1	2	3	4	5
35. I create flashcards to study for a test.	1	2	3	4	5
36. I study based on test format.	1	2	3	4	5
37. I wait too long to start long-term assignments.	1	2	3	4	5
38. I review material until it is memorized.	1	2	3	4	5
39. I lose my homework.	1	2	3	4	5

### Appendix D: Daily Checklist

Target Behavior	Goal Completed?	
<b>Getting Ready for School in the Morning</b>		
Brushed Teeth	Y	N
Showered	Y	N
Ready On Time	Y	N
Took my medications	Y	N
<b>School</b>		
Turned in my math homework	Y	N
Turned in my reading homework	Y	N
Wrote down my reading homework	Y	N
<b>After School</b>		
Completed my reading homework	Y	N
Completed my chores (took out the trash, emptied the dishwasher)	Y	N
Packed my book bag for tomorrow	Y	N
<b>Before Bed</b>		
Brushed Teeth	Y	N

**I completed \_\_\_\_\_ / \_\_\_\_\_ items on my daily checklist or \_\_\_\_\_ %**

(To calculate, divide the number of items completed that day by the total number of checklist items)

My Personal Goals	Met Goal Today?
<b>1.</b>	Y   N
<b>2.</b>	Y   N
<b>3.</b>	Y   N

### Appendix E: Treatment Integrity Checklists

	<b>Pre-Treatment Integrity Checklist</b>	step completed?
	1. Describe study to participants	
	2. Collect consent & assent	
	3. Parents and adolescents complete all forms listed in table below; <b>ADIS and Conners should be rated on when child is NOT medicated!!!!</b>	
	4. Have parents sign a release form to contact their student's school/ teachers	
	5. Have parents give information to access the student's grades on-line, OR agree to bring their printed homework grades each week OR e-mail them	
	6. Inform parent that we will be in contact concerning if their child qualifies for the study.	
Totals	Items implemented ____/____ or _____ %	

<b>Measure</b>	<b>Given/Collected?</b>
Demographic Questionnaire	Y N
Treatment History/Assessment Form	Y N
Anxiety Disorders Interview Schedule, ADHD Module-Parent <b>OFF MEDS</b>	Y N
Anxiety Disorders Interview Schedule ADHD Module-Adolescent <b>OFF MEDS</b>	Y N
Conners-3 Parent Long <b>OFF MEDS</b>	Y N
Conners-3 Self-Report Long (Adolescent) <b>OFF MEDS</b>	Y N
Child Behavior Checklist (Parent)	Y N
Youth Self-Report (Adolescent)	Y N
Adolescent Homework Inventory to Parent	Y N
Adolescent Homework Inventory to Adolescent	Y N
Adolescent Routines Questionnaire to Parent	Y N
Adolescent Routines Questionnaire to Adolescent	Y N
Classroom Performance Survey to Core Teachers	Y N

**\*\*After Session:**

1. Score measures and determine if they meet criteria for the study.

2. If they meet criteria, let me know so I can randomly assign them to a group. I will need their age, sex, race, and diagnosis (type of ADHD).
3. Immediately contact the school so teachers can fill out pre-treatment CPS before treatment.
4. Contact parents to set up treatment session 1 OR to let them know they are on the waitlist and will be contacted in a matter of weeks.

Comments:

	<b>Session 1 Treatment Integrity Checklist</b>	step completed?
	1. Check-in: any change in meds? Tell parents to keep it the same.	
	2. Educate on common problems with teens with ADHD and rationale of importance of daily routines (hand-outs: Importance of Routines, ADHD Facts, Managing my ADHD)	
	3. Educate on importance of HW completion for academic achievement.	
	4. Identify problematic “hotspots” throughout the day (worksheet)	
	5. Develop target behaviors for the daily checklist using the “hotspots” list.	
	6. Develop personal goals with the adolescent.	
	7. Teach how to self-monitor with parents assistance first, then phasing out. (how to self-monitor worksheet)	
	8. Teach parents and adolescents to calculate “percentage of checklist completed” to determine competency.	
	9. Type up and print daily checklist from template.	
	10. Make 7 copies of daily checklist and give to parent.	
	11. Develop a contingency list and give copy to parent. (worksheet)	
	12. Have parent and adolescent sign contingency contract.	
	13. Tell parents to bring back the completed checklists for the next session.	
	14. Schedule session 2 for 1 week later.	
Totals	Items implemented ____/____ or _____ %	

**\*\* After Session:**

- Contact parents at least one time to check-in! Ask if:
  1. They have started the checklists as discussed? Y or N
    - a. Troubleshoot with them about why they have not started them, if that is the case. Develop a plan for starting them (and choose a date to start).
  2. They have any questions/concerns.

Comments:

	<b>Session 2 Treatment Integrity Checklist</b>	step completed?
	1. Collect completed daily checklists from previous week.	
	2. Check-in: any change in meds?	
	3. Discuss and troubleshoot problems with completing the daily checklists.	
	4. Ensure contingencies are being delivered appropriately. If necessary, review importance and the list they created.	
	5. Ask if teen became competent in completing checklist individually. Troubleshoot if necessary.	
	6. Modify the daily checklist as necessary.	
	7. Develop possible personal goals for the next 2 weeks with adolescent.	
	8. Type up and print modified daily checklist.	
	9. Make 14 copies of the modified daily checklist and give to the parent (enough until next session)	
	10. Tell parents to bring back the completed checklists for the next session.	
	11. Schedule session 3 for 2 weeks later.	
Totals	Items implemented ____/____ or _____ %	

**\*\* After Session:**

- Contact parents at least one time to check-in! Ask if:
  1. They have used the checklists as discussed? Y or N
    - a. Troubleshoot with them about why they have not used them, if that is the case. Develop a plan for using them.
  2. They have any questions/concerns.
- Get grades on-line, or make sure to collect them from the first week of intervention.

Comments:

	<b>Session 3 Treatment Integrity Checklist</b>	step completed?
	1. Collect completed daily checklists from previous two weeks.	
	2. Check-in: Any change in meds?	
	3. Discuss and troubleshoot problems with completing the daily checklists.	
	4. Ensure contingencies are being delivered appropriately. If necessary, review importance and the list they developed.	
	5. Ask if teen became competent in completing checklist individually. Troubleshoot if necessary.	
	6. Modify the daily checklist as necessary.	
	7. Develop possible personal goals for the next week with adolescent.	
	8. Type up and print modified daily checklist	
	9. Make 7 copies of the modified daily checklist and give to the parent.	
	10. Tell parents to bring back the completed checklists for the next session.	
	11. Schedule date 1 week later to turn in remaining checklists and complete post-treatment measures.	
Totals	Items implemented ____/____ or _____ %	

**\*\* After Session:**

- Contact parents at least one time to check-in! Ask if:
  1. They have used the checklists as discussed? Y or N
    - a. Troubleshoot with them about why they have not used them, if that is the case. Develop a plan for using them.
  2. They have any questions/concerns.
- Get homework grades on-line, or make sure to collect them from the last 2 weeks of intervention.

Comments:



	<b>Post-Treatment Integrity Checklist</b>	step completed?
	1. Collect completed checklists from previous week	
	2. Check-in: Any changes in meds?	
	3. Discuss and troubleshoot any problems with the checklists.	
	4. Ensure contingencies were delivered appropriately.	
	5. Ask if teen became competent in completing checklist individually. Troubleshoot if necessary.	
	6. Encourage family to continue using the checklists at home to improve their routines.	
	7. Parents and adolescents complete all forms listed in table below (post-treatment forms).	
Totals	Items implemented ____/____ or _____ %	
	Total Time _____	

<b>Measure</b>	<b>Given/Collected?</b>
Demographic Questionnaire	Y N
Treatment History/Assessment	Y N
Adolescent Homework Inventory to Parent	Y N
Adolescent Homework Inventory to Adolescent	Y N
Child Behavior Checklist (Parent)	Y N
Youth Self-Report (Adolescent)	Y N
Adolescent Routines Questionnaire to Parent	Y N
Adolescent Routines Questionnaire to Adolescent	Y N
Treatment Evaluation Inventory-Parent	Y N
Treatment Evaluation Inventory-Adolescent	Y N
Classroom Performance Survey to Core Teachers	Y N

**\*\*After session:**

- Get homework grades on-line, or make sure to collect them from the last week of intervention.
- Contact core teachers that filled out the CPS the first time to fill it out for post-treatment (or give to parents to have teachers complete)

## **Appendix F: Parent Psychoeducation Handout**

### **ADHD Facts for Parents**

**What is ADHD?** Attention-Deficit/Hyperactivity Disorder is a developmental disorder in children, adolescents, and adults that is characterized by problems in attention, impulse control, and regulation of physical activity. There are 3 subtypes: ADHD Predominantly Inattentive Type, ADHD Predominantly Hyperactive/Impulsive Type, and ADHD Combined Type (both inattentive & hyperactive/impulsive).

**Who has ADHD?** Approximately 3-5% of the population has ADHD. It occurs more often in boys than girls, with a ratio of about 3:1 (boys to girls). It is found in all countries and ethnic groups.

**What causes ADHD?** ADHD appears to have a strong biological, or genetic, basis and is likely inherited in many cases. In other cases, it may be associated with significant pregnancy or birth complications. In a few cases, it is the result of disease or trauma to the central nervous system. Research does *not* support that ADHD is caused by consuming certain foods (sugar, food dyes) or by allergies.

### **Major Characteristics of ADHD:**

1. **Inability to maintain sustained attention and persist on difficult tasks.** This is frequently seen in becoming bored quickly with repetitive tasks and shifting quickly from one uncompleted activity to another. People with ADHD have a hard time focusing on lengthy tasks and may lose focus or concentration. They may often fail to complete tasks without supervision or assistance, such as homework or chores.

**2. Inability to control impulses and wait for gratification.** This is seen in the person's inability to stop and think before acting, to wait one's turn, and to work for long term rewards over immediate or short term rewards. Additionally, the individual may have a hard time inhibiting his or her behavior to meet the demands of the situation or current environment. For example, speaking softly in the library, or staying seated during a wedding service.

**3. Excessive activity not related to the task or that does not match the demands of the situation or environment.** People with ADHD are often excessively fidgety and restless, almost like they are run by a motor. They may display excessive movement, such as shaking their legs, tapping their hands or feet, playing with objects nearby, or shifting positions while seated. The inability to regulate excessive bodily movement is more commonly seen in younger children with ADHD, as adolescents are often better able to regulate their physical movement.

**4. Deficient rule following.** Individuals with ADHD often have a hard time following through on instructions or requests in order to complete tasks or assignments. They may require more supervision to complete tasks. This may be due to defiance, memory impairment, distractibility, or not paying attention during administration of directions.

**5. Greater than normal variability during task performance.** There is some evidence that shows that individuals with ADHD show a greater variation in their work quality, accuracy, and speed than typical individuals. This may be seen in highly variable, or changing, performance at work or on school assignments.

*It is important to note that all individuals may experience the aforementioned difficulties listed above at some point in time. However, individuals with ADHD often experience them to a greater extent in which it affects their ability to function in their daily lives.*

## **Other Characteristics**

1. **Early Onset.** Many individuals with ADHD show an early onset of the major characteristics listed above. Many have demonstrated these since as young as three or four years of age.
2. **Situational Variation.** The major characteristics show considerable variation across situations, meaning that some of the characteristics will show a lot in some situations, but not at all in others. For example, an individual may be able to pay attention and focus on video games or a movie for an hour or more, but is unable to pay attention to a lecture or presentation for an hour or more.
3. **Relatively Chronic Course.** Most children with ADHD manifest their characteristics throughout childhood and into adolescence. Although the major features sometimes improve with age, most individuals with ADHD remain behind others in their ability to maintain attention, inhibit behavior, and regulate their activity level.

## **Adult Outcome**

It has been estimated that between 15% and 50% of children with ADHD ultimately outgrow their problems or at least achieve a point in their lives where their symptoms are no longer maladaptive. Approximately 50-66% of children with ADHD will continue to display their characteristics into young adulthood (1,2). The professional literature has only recently recognized that adults may display these features as well, and may have manifested them since childhood. Between 35% and 60% of individuals with ADHD will have problems with aggressiveness, conduct, and violation of legal or social norms during adolescence, and 25% are likely to become antisocial in adulthood. The most common area of maladjustment is in school work, where individuals with ADHD are more likely to be retained, provided special education, suspended for inappropriate conduct, expelled, or quit. Approximately 35% of children with

ADHD will display a learning disability (a delay in reading, writing, mathematics, or language) along with their ADHD features. Among those individuals with ADHD who develop conduct disorders or antisocial behavior in adolescence, substance abuse is noted in the majority, especially cigarettes and alcohol. Individuals with ADHD *without* conduct problems show no greater tendency towards substance abuse than do normal people.

### **Treatment for ADHD**

No treatments have been found to cure ADHD, but many exist that have shown some effectiveness in reducing the severity of symptoms or the degree to which the symptoms impair a person.

The most researched and substantiated treatment of ADHD is the use of stimulant medications. However, it is often recommended that other treatments, usually some form of behavior management, be used in conjunction with medications. At times, it is also recommended to try a behavior management intervention before medication or if medication causes negative side effects.

Behavior management treatments usually include training the parents of children and adolescents with ADHD in more effective behavior management skills, training the adolescent to monitor their own academic behavior, modifying classroom behavior-management procedures used by teachers, adjusting length and number of assignments given at one time, and providing special education services to children and adolescents with more serious degrees of ADHD. Establishing routines is often recommended to parents to help manage behavior related to ADHD symptomatology.

Treatments with *little or no evidence* of their effectiveness include dietary management (elimination of sugar or food additives, such as dyes), long-term psychotherapy, high doses of vitamins, chiropractic treatment, and sensory-integration therapy.

The treatment of ADHD requires a comprehensive behavioral, psychological, educational, and sometimes medical evaluation followed by education of the individual and his or her caregivers as to the nature of the disorder and methods proven to assist with its management. Treatment is likely to be multidisciplinary, requiring the assistance of mental health, educational, and medical professionals at various points in the course of treatment.

This hand-out was provided by The Guilford Press, 1991; A Division of Guilford Publications, Inc. Additional research was added, but the format, presentation, and majority of content was provided by the original hand-out.

## References

- Barkley, R.A., Fischer, M., Edelbrock, C.S., & Smallish, L. (1990) The adolescent outcome of hyperactive children diagnosed with research criteria: I. An 8-year prospective follow up study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 28(4), 546-557.
- Young, S. & Amarasinghe, M. (2010). Practitioner Review: Non-pharmacological treatments for ADHD: A lifespan approach. *Journal of Child Psychology and Psychiatry*, 51(2), 116-133.

## Appendix G: Adolescent Psychoeducation Handout

### Managing My ADHD: A Guide for Adolescents

What is Attention Deficit Hyperactivity Disorder? Individuals with ADHD often have difficulty being organized, getting things done on time, and remembering important appointments or tasks. Often times, teens adolescents and adults with ADHD become overwhelmed by completing a task and put off facing it. Some people with ADHD also feel restless, can't sit still for very long, and are impatient. People with ADHD are not all the same. They do not always share the same characteristics. For some people, medication is more helpful than for other people with ADHD. For most children with ADHD, the symptoms continue into their teen years and adulthood. Sometimes, difficulty staying focused is more of a problem as you get older because your school work load increases and gets harder.

#### There are Three Types of ADHD

<b>ADHD Predominantly Inattentive Type</b>	People who only have difficulty with paying attention but <b>are not</b> restless and impulsive
<b>ADHD Hyperactive/Impulsive Type</b>	People who only have difficulties with feeling restless and making impulsive decisions, but <b>do not</b> have problems paying attention.
<b>ADHD Combined Type</b>	People who have difficulty paying attention <b>and</b> have difficulties acting without thinking and feeling restless.

No matter what type of ADHD you have, **you can learn to cope with the problems caused by your ADHD**. Some of the problems experienced by teens with ADHD include the following listed below. What problems do you have?

1. Difficulty deciding what is important to finish first or right away.
2. Forgetting to do things such as recording homework assignments, bringing homework back to school, chores, or completing a task for your boss.
3. Showing up late to things like practices, meetings, and appointments.
4. Not being able to finish things that are boring but important.
5. Not being able to stay focused on boring but important tasks.
6. Difficulty managing time (taking too long to complete something, or letting time “get away” from you.
7. Having difficulty stopping something that is interesting to get work finished or moving on to something more productive.
8. Being impatient, such as having difficulty waiting in line.
9. Becoming easily annoyed or angered.
10. Saying things you later regret.
11. Acting without thinking.

**One of the main reasons for these problems is having difficulty with self-control.**

**Self-control** is a person’s ability to manage their actions and reactions so that goals are accomplished. People with poor self-control often have trouble making themselves do things that they really want to do. It’s just that other activities are too tempting or time just gets away from you. It may be that the person with ADHD has trouble staying focused.

### **Olivia**

After school, Olivia often enjoys taking a nap, texting, or getting on Facebook. She wants to get good grades but has trouble staying motivated. She often puts off starting her homework until later in the evening. Before long, it’s bedtime and her homework isn’t finished.



“I’ll get up early and study,” she tells herself even though she knows it probably won’t happen. Other times, Olivia starts her homework but quickly gets bored and tired. “I just need to take a short break.” Soon the break is much longer than she promised herself.

Olivia often is disorganized at school and can’t find her homework or books. Other times, she forgets to bring home a textbook or to write down assignments. When this happens, Olivia feels frustrated with herself and stressed. When Olivia is given long-term projects, like a big report for English, she usually waits to start working on it until it is close to the due date. Olivia thinks that the long-term project is “too much work” and “she’ll never get it done anyways.”

Olivia gave in to **immediate positive consequences** (fun evening activities, avoiding boring school work) even though the **long term consequences are negative** (poor grades, losing privileges, disappointment in yourself).

### **Sam**

If Sam argues with his parents, he may feel like hitting his fist on a table or saying something mean. If Sam said something disrespectful or mean out of anger, he gave in to **immediate positive consequences** (stood up for himself, released tension) even though he suffered **negative long term consequences** (grounded, felt bad about himself). If Sam showed good self-control, he also would not punch the table. If he shows good self-control, he stays composed to avoid getting into more trouble. He **avoided long term negative consequences** (punishment by his parents) **and earned positive consequences** (good self-esteem, positive relationships with his parents).

Often, teens with ADHD have difficulty controlling their behavior because the immediate consequences (losing your temper) may feel good or release tension. Many teens with ADHD

often blurt out things they will soon regret. **Teens with ADHD often act without considering the likely long term consequences.** This “acting without thinking” can lead to very negative consequences and make you feel like things are out of your control.

**Remember:** You can develop better self-control. ADHD is a problem of *not doing something you know how to, want to, and can do.*

## **You**

Many teenagers with ADHD have problems similar to Sam and Olivia. They have trouble achieving goals because they give in to enjoying **immediate positive consequences** (put off doing boring work, talking to friends) even though the **long term consequences are negative.** This often causes teens with ADHD to have **negative thinking.** For example, you might think, “I’ll never get good grades,” “I’ll never learn to stop putting things off.” “I’ll never get into a good college.” “I’m a loser.”

**Negative thinking** makes it even more difficult to achieve your goals. **Negative thinking** often makes you want to **avoid** thinking about or working to achieve your goals. When you avoid working on your goal you avoid negative thinking. **This is called procrastination.** Procrastination is a very common problem for teens and adults with ADHD.

## **So what do you do?**

You can teach yourself ways to achieve your everyday goals and work towards long term goals, such as completing a large project. Lots of people have learned to accomplish their goals despite having ADHD. As a teenager, you have a lot of responsibilities including school and home responsibilities, extracurricular activities, and sometimes work. Also, it is likely that your parents, teachers, and other people in your life expect you to accomplish most of your responsibilities on your own and without their reminders. How many times have you heard your

parent or teacher say, “You need to take more responsibility” or “You need to be more independent.”

Difficulties with self-control and time management can be overcome so you achieve your goals.

**Some strategies for achieving your goals include:**

1. Record important assignments, meetings, practice dates, and to-do list items in one place.
2. Wear a watch and use such things as a kitchen timer, digital clock, or your phone to set alarms that keep you focused on a task and on schedule in order to be more efficient and punctual.
3. Use reminders throughout the day to remember to do things that must be done. For example, hanging a checklist on your bathroom mirror so that each morning you can go review the list to make sure you complete your morning hygiene and have taken your medications.
4. Break down long-term or big assignments into smaller chunks in order to complete them over time rather than waiting until the last minute. Schedule time to work on small portions of an assignment daily. This will help you feel less anxious or overwhelmed, which often leads to procrastination.
5. Use positive, realistic thinking in order to coach yourself through a challenging task. For example, you might say, “I know I don’t feel like doing this but it should take less than an hour and then I’ll go out with my friends.”
6. Reward yourself when you are working. For example, rewarding yourself with a small treat or a short break to listen to music for every 30 minutes of work you complete.
7. Make a plan! When you have a lot going on, sit down for 5-10 minutes and take time to decide what needs to be done first, second, third, and so on. Prioritize what you need to

do, so that you are getting things done first that are due first, or the most important.

Then, when those are finished the more important things, you can move on to less important tasks.

These are just some strategies that may help you achieve greater independence and self-reliance and feelings of accomplishment. The ability to achieve your goals independently means that your parents, teachers, or other people can stop asking you to do things over and over. Often, when parents, teachers, or friends have to give you reminders, they become very frustrated. They don't understand why you can't remember or "just do it." By using strategies that work for you to be more independent, others will be less frustrated with you and, best of all, you will feel more confident as you prepare for being an independent adult.

### **Self-Monitoring to Manage My ADHD**

**Self-monitoring** involves paying attention to your own actions to make sure you are doing what you should be doing. For example, if you are doing an assignment in class, you may make sure that you answered all of the questions, put your name on the paper, and check your answers before you turn it in. This is an example of monitoring your own behavior. **To make self-monitoring easier, we suggest developing a checklist.**

A key strategy you can use throughout your everyday life to remember important and even not so important, but necessary, tasks, is to keep a **daily checklist** so you can **remember routines**. This daily checklist should include things that you may not remember to do on your own throughout the day, but are important to remember and complete. These may be things that your parents or teachers ask you to do over and over, or tasks that you know you often forget to complete. Such things may include: getting ready in the morning and remembering to brush

your teeth, comb your hair, and put on deodorant; turning in your homework assignments at school; packing your school bag for the next day; and completing homework assignments.

The benefit of keeping a daily checklist to monitor your routines is that your parents, teachers, and others will not have to constantly remind you of things or “nag” you. You can simply keep track of your list and check it throughout the day to make sure you have completed each item on the list. The daily checklist is just another way to help you become more independent while helping you manage your daily tasks and achieve goals. Your daily checklist should also include **personal goals**, as well as work or school goals, that you can achieve each day. After you complete your daily checklist and goals, you will feel more confident about your ability to get things done.

### **Goal Setting and Prioritizing**

**Goal setting** is when a person decides that they would like to get something finished, and they set out a plan, or goals, to get that task done. When using a self-monitoring checklist, it is helpful to also **set goals each day** for other things that you want to get finished that are not on your daily checklist. These may include personal goals, such as calling a friend back or working on a hobby, or they may include goals like getting something finished for work or a long-term school project.

When you are goal setting, **making a plan and prioritizing your activities and tasks is a very important step in achieving your goals**. As a busy teenager, you have a lot to remember and get done at any one time. Sometimes it’s not so easy to decide what to do first, so how do you decide? First, you can list all of the things that you need to get done for that day. Then, to determine which ones you should do first, you can ask yourself questions like:

- When is the assignment/task due? When does it need to be done?

- What will happen if you don't get it done on time? Are there negative consequences, like a bad grade or getting in trouble?
- Do you have time to finish it all in one sitting, or should you break the assignment down in to smaller parts?

These questions will help you decide what needs to be finished first, second, third, fourth, and so on. For example, if you have a homework assignment that is due tomorrow morning and is worth a large portion of your grade, you know you probably want to finish that first to **avoid the negative consequence** of a bad grade. Whereas if you have a project you have been working on for decorating your room, you know you can put that off and have no negative consequences.

### **Recruit Help!**

While it is important to be able to complete things on your own, it is important to remember that you can also **recruit a person to be a “coach” or “guide”** to help you. Parents, siblings, or friends, can help you by encouraging you to stick with it along the way. Having a support system can be really important when trying something new, especially something that may be frustrating at first. Keep in mind that the strategies we are going to teach you have been found to be very helpful and useful. It just takes time to use them with success. This also means it takes some work on your part. BUT, the good news is, with the help of a parent or friend, you can begin to improve your daily life and accomplish your goals.

And, as you continue into adulthood, you will have mastered skills that will help you remember and accomplish tasks, remember appointments, be more organized, and be the best you can be. **REMEMBER: ADHD IS NOT AN EXCUSE. IT'S A REASON FOR LEARNING NEW SKILLS TO COPE WITH THE SYMPTOMS.**

### **What Do You Want to do Better?**

Complete my homework before talking to friends.

Complete my school work on time

- Complete my chores without reminders
- Make it to school, practice, appointments, or work on time
- Think before saying something to someone that might be mean
- Remember to bring home everything I need for my homework or projects
- Remember everything I need for practice
- Be able to wait my turn without feeling restless and annoyed

## **Vita**

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